

QP CODE: D4BMT2401	(Pages: 2)	Reg. No :
		Name :
Fourth Semester B.Sc (FYUGP) Degree Examinations April 2026		
Value Added Courses (VAC)		
MAT4FV109(1) : HISTORY OF MATHEMATICS		
(Credits: 3)		
Time: 1.5 Hours	Maximum Marks: 50	
Section A		
Answer the following questions. Each carries 2 marks (Ceiling: 16 marks)		
1. Which two ancient civilizations contributed greatly to early recorded mathematics?	BL1	CO1
2. How did early mathematicians approximate the tangent to a curve before the formal definition of derivative?	BL1	CO1
3. Give one classical example of a quadratic irrational discovered by the Greeks.	BL1	CO1
4. What is meant by a <i>topological property</i> ?	BL4	CO3
5. Define a perfect number and give two examples.	BL2	CO1
6. Define $\lambda_1 = \lambda_2$ and $\lambda_1 < \lambda_2$ according to Eudoxus' theory of proportions.	BL2	CO2
7. Write the series discovered by the Indian mathematician Madhava in the 15th century and rediscovered by Newton, Gregory, and Leibniz.	BL2	CO1
8. Check that $(3 - \sqrt{-1})^3 = 18 - 26\sqrt{-1}$.	BL2	CO3
9. What is meant by the genus of a surface?	BL1	CO1
10. How many complex solutions does the equation $x^n = 1$ have?	BL3	CO3
Section B		
Answer the following questions. Each carries 6 marks (Ceiling: 24 Marks)		
11. Write the five common notions of Euclid.	BL2	CO1
12. Use Cardano's formula to solve $y^3 = 2$.	BL4	CO3
13. Using the Chinese method solve the system of 3 equations in 3 unknowns $x + y + z = 6$, $2x + 3y - z = 5$ and $x - y + z = 2$.	BL3	CO1
(PTO)		

14.	Show that solving the cubic is equivalent to trisecting an arbitrary angle.	BL4	CO3
15.	What are the three impossible constructions in Greek geometry? Describe them.	BL2	CO1
Section C			
Answer any one question. Each carries 10 marks (1 x 10 = 10 Marks)			
16.	Present a detailed explanation of Cantor's diagonal argument and show how it proves that the set of real numbers is uncountable.	BL1	CO3
17.	Describe the historical development of calculus and explain the contributions of Newton and Leibniz.	BL1	CO1
CO : Course Outcome			
BL : Bloom's Taxonomy Levels (1 – Remember, 2 – Understand, 3 – Apply, 4 – Analyse, 5 – Evaluate, 6 – Create)			